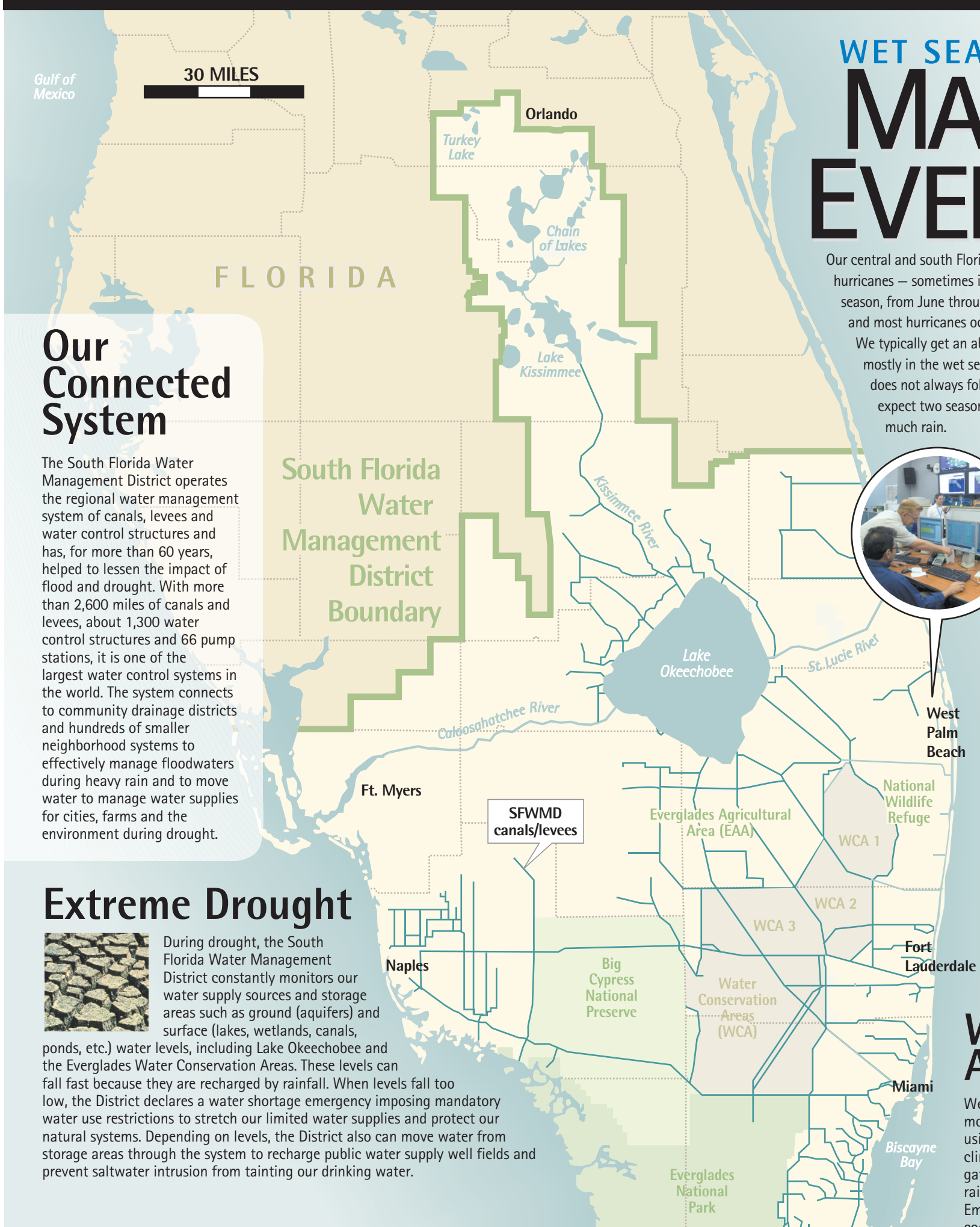
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WET SEASON, DRY SEASON
MANAGING EVERY DROP

Our central and south Florida weather can be one of extremes from droughts to hurricanes — sometimes in the same year! Our region has two seasons: the wet season, from June through October, when 70 percent of the year's rain falls, and most hurricanes occur; and the dry season, from November through May. We typically get an abundance of rain, about 52 inches a year, falling mostly in the wet season. But, Mother Nature isn't always typical and she does not always follow the wet/dry calendar. Knowing that we can expect two seasons, we can all be prepared to handle too little or too much rain.

Our Connected System

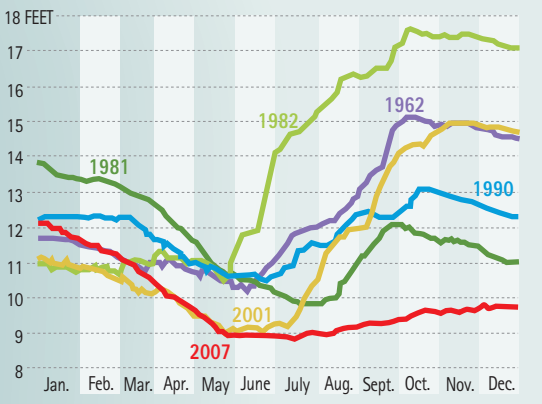
The South Florida Water Management District operates the regional water management system of canals, levees and water control structures and has, for more than 60 years, helped to lessen the impact of flood and drought. With more than 2,600 miles of canals and levees, about 1,300 water control structures and 66 pump stations, it is one of the largest water control systems in the world. The system connects to community drainage districts and hundreds of smaller neighborhood systems to effectively manage floodwaters during heavy rain and to move water to manage water supplies for cities, farms and the environment during drought.



SFWMD WATER MANAGERS

Engineers, meteorologists and water managers monitor weather conditions and water levels 24 hours a day from the District's "Control Room" at its headquarters in West Palm Beach. They use this data to determine optimal operation of the hundreds of water control structures throughout the system in times of heavy rain or drought — and all year long.

Lake Okeechobee Extreme Highs & Lows . . .



. . . in the same year!

Extreme Drought

During drought, the South Florida Water Management District constantly monitors our water supply sources and storage areas such as ground (aquifers) and surface (lakes, wetlands, canals, ponds, etc.) water levels, including Lake Okeechobee and the Everglades Water Conservation Areas. These levels can fall fast because they are recharged by rainfall. When levels fall too low, the District declares a water shortage emergency imposing mandatory water use restrictions to stretch our limited water supplies and protect our natural systems. Depending on levels, the District also can move water from storage areas through the system to recharge public water supply well fields and prevent saltwater intrusion from tainting our drinking water.

When a Storm Approaches

Weather conditions and water levels are monitored around the clock, 365 days a year using state-of-the art technology and long-term climatic forecasting. The District opens flood gates and lowers primary canal levels if heavy rains are expected. In extreme conditions, the Emergency Operations Center is activated and coordinates with other governmental agencies.

KNOW THE FLOW: A THREE-TIERED SYSTEM

NEIGHBORHOOD DRAINAGE SYSTEM
Tertiary Drainage System

DRAINAGE GRATES

After a heavy rain, excess "surface water" slowly drains to community lakes and ponds via street and drainage grates, swales, ditches or neighborhood canals. Maintenance of community drainage facilities is typically the responsibility of residents or homeowner associations.

CULVERTS

The water then drains from the neighborhood or "tertiary" system through culverts or underground pipes to the "secondary system," usually operated by special drainage districts or the county/city.

SECONDARY DRAINAGE SYSTEM
Local Drainage District/County or City

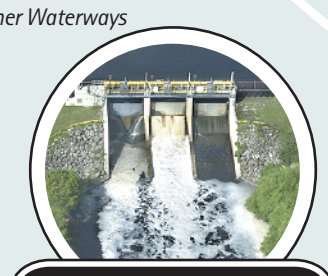
LOCAL STRUCTURE

Usually a network of local gates, pump stations, canals, structures and storage areas, "secondary" drainage systems can cover several hundred square miles and serve a number of communities. The secondary system's canals typically discharge water into the "primary" flood control system.

PRIMARY DRAINAGE SYSTEM
South Florida Water Management District (SFWMD) Canals and Natural Rivers/Other Waterways

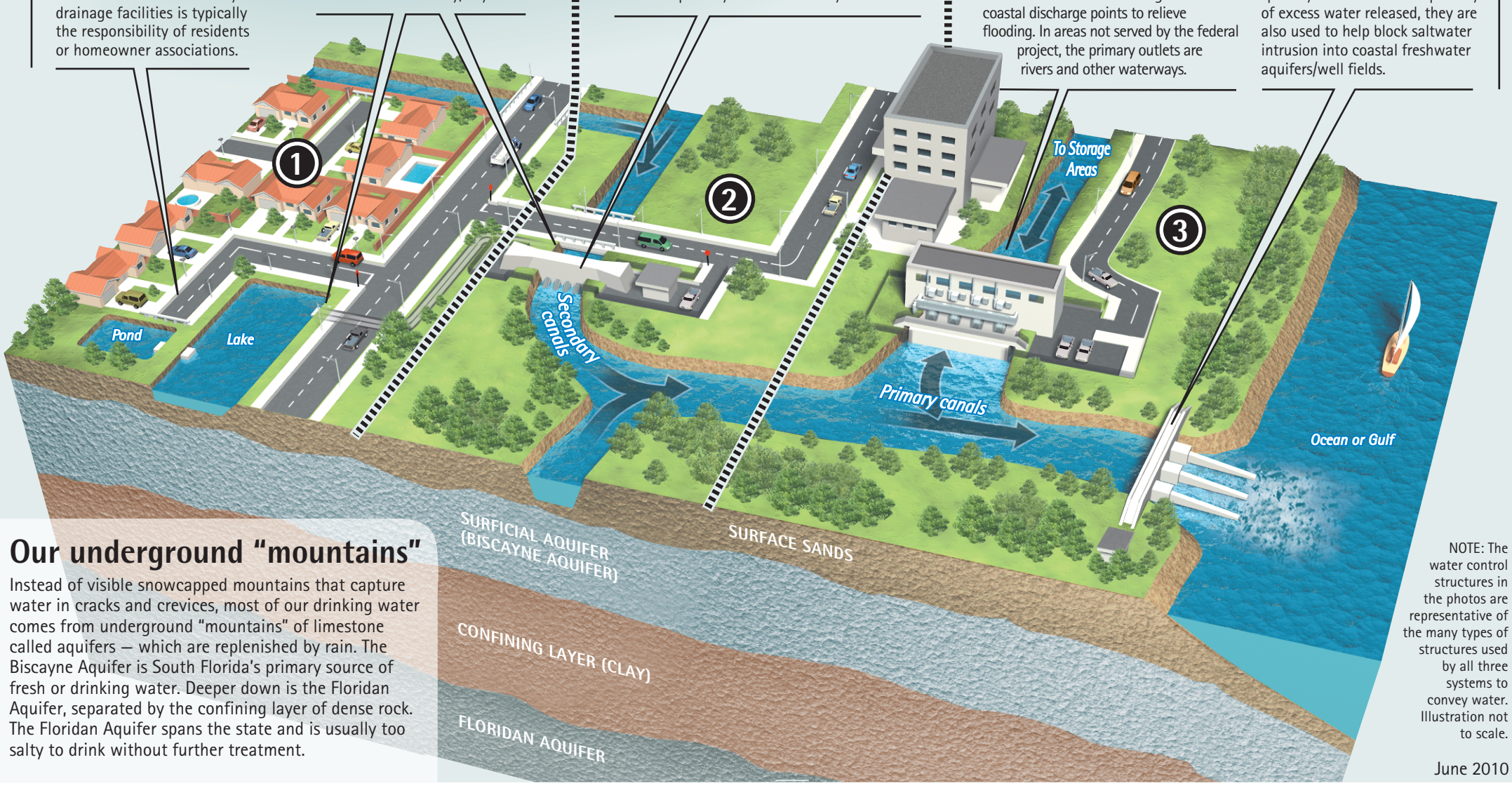
PUMP STATIONS

The SFWMD operates and maintains the "primary" drainage system built by the federal government along with other system components. During and after heavy rains, excess water is routed through primary waterways using pump stations and other structures to storage areas or coastal discharge points to relieve flooding. In areas not served by the federal project, the primary outlets are rivers and other waterways.



GATED SPILLWAYS

Huge gravity-operated gated spillways help control the amount of excess water discharged to the ocean or gulf as quickly and safely as possible. Because these large-volume spillways can control the quantity of excess water released, they are also used to help block saltwater intrusion into coastal freshwater aquifers/well fields.



Our underground "mountains"

Instead of visible snowcapped mountains that capture water in cracks and crevices, most of our drinking water comes from underground "mountains" of limestone called aquifers — which are replenished by rain. The Biscayne Aquifer is South Florida's primary source of fresh or drinking water. Deeper down is the Floridan Aquifer, separated by the confining layer of dense rock. The Floridan Aquifer spans the state and is usually too salty to drink without further treatment.

NOTE: The water control structures in the photos are representative of the many types of structures used by all three systems to convey water. Illustration not to scale.

June 2010